



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,574	10/24/2000	Young Jin Oh	8733.007.01	2428

30827 7590 05/24/2002

LONG ALDRIDGE & NORMAN, LLP  
701 PENNSYLVANIA AVENUE N.W.  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

QI, ZHI QIANG

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 05/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/694,574

Applicant(s)

OH ET AL.

Examiner

Mike Qi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 42-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/079,895.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 45 and 59 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 45 and 59, recitation "the transparent first metal layer is connected to the source and drain electrodes" is incorrect, because the transparent first metal layer is the pixel electrode according to the invention and the pixel electrode can not be connected to the both electrodes (source electrode and drain electrode). The pixel electrode functions to display the data signal generated from the drain electrode, and the data signal is input to the source electrode. For examination purpose, it is interpreted as the transparent first metal layer (pixel electrode) is connected to drain electrode, the source electrode is connected to the source line.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2871

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 42-52, 54-55 and 56-66, 68-69 are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,852,485 (Shimada et al).

Claims 42 and 56, Shimada disclose (col.11 line 1 – col. 12, line 63; Figs.1-3) that an in-plane switching liquid crystal device comprising:

- active-matrix substrate (128) and counter substrate (127), i.e., first and second substrates;
- a plurality of gate bus lines (13) and source bus lines (14) (acting as data bus lines) on the first substrate (128), the gate lines (13) being crossed with the data bus lines (14);
- a common line (125) parallel to the gate lines (13) on the first substrate (128);
- a gate insulation layer (115) on the first substrate lower plate (120);
- the picture element electrode (12, 16) and the counter electrode (11) are formed of conductive material, e.g., ITO such transparent conductive material, on the interlayer insulation layer (19) and the gate insulation layer (115), i.e.,

a transparent first metal layer and a transparent second metal layer on an insulator.

Claims 43-44 and 57-58, Shimada disclose (col. 11, line 15 – col.12, line21, Figs.1-3) that a TFT (122) is at each of the intersections of the gate lines (13) and the source lines (14), i.e., a plurality of thin film transistors at crossing points of the gate bus lines and the data bus lines, and the TFT (122) includes a gate electrode (15) on the first substrate lower plate (120), a semiconductor layer (114) on the gate electrode (15), source electrodes (111) and drain electrodes (112) on the semiconductor layer (114).

Claims 45-46 and 59-60, Shimada disclose (col.11, lines 31-53; Figs.1-3) that the drain electrode (112) is connected to the picture element electrode (12 as the transparent first metal layer) through a connecting electrode (16) and a contact hole (17), the source electrode (111) is connected to the source line (14 as data line), and each counter electrode (as the second transparent metal layer) is connected to the common line through contact hole (col. 4, lines 23-26), i.e., the transparent second metal layer is connected to the common line.

Claims 47-48 and 61-62, Shimada disclose (col. 11, lines 32-53; Figs.1-3) that the connecting electrode (16) is connected to the picture element electrode (12), so that the electrode (16) also functions as pixel electrode, and the part of the electrode (16) overlapping the common line to form a storage capacitor. The part of the electrode (16) also overlapping the counter electrode (11) (Fig.3), so that forming another storage capacitor

Claims 49-50 and 63-64, Shimada disclose (col.12, lines 58-63; Figs.1-3) that the picture element electrode (12, 16) and the counter electrode (11) are formed of conductive material, e.g., ITO such transparent conductive material, i.e., a transparent first metal layer (data electrode or pixel electrode) and a transparent second metal layer (counter electrode or common electrode).

Claims 51-52, 54-55 and 65-66,68-69, Shimada disclose (col.13, line 66 – col. 14, line 9; Figs 1-3) that a first alignment layer (116) on the first substrate (128) and the second alignment layer (117) on the second substrate (127), and the material for the alignment layer is polyimide.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 53 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada as applied to claims 42-52, 54-55 and 56-66, 68-69 above, and further in view of US 5,929,958 (Ohta et al).

Claims 53 and 67, Ohta discloses (col.19, lines 26-39, col.20, lines 26-37; Fig.7) that an in-plane liquid crystal display device comprising a black matrix (BM) layer on the second substrate (SUB2), a color filter (FIL) on the black matrix layer (BM) and a liquid crystal layer (LC) between the first and second substrates (SUB1, SUB2), such that to

Art Unit: 2871

improve the contrast and to prevent external light goes to the semiconductor layer (AS) of the TFT, so that protecting the TFT, and using color filter to display color signal.

Therefore, it would have been obvious to those skilled in the art at time the invention was made to arrange the black matrix, color filters as claimed in claims 53 and 67 for improving the contrast and display color signal.

### ***Remarks***

7. The claims 1-41 have been canceled. The rejection for the new added claims 42-69 is presented above.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (703) 308-6213. The examiner can normally be reached on 349.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Sikes can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7721 for regular communications and (703) 308-7721 for After Final communications.

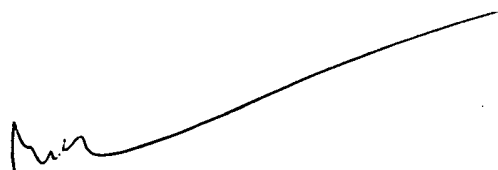
Application/Control Number: 09/694,574

Page 7

Art Unit: 2871

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Mike Qi  
May 17, 2002



TOANTON  
PRIMARY EXAMINER